

~~A New Patent Claims~~
~~A A WHAT IS CLAIMED IS:~~
~~Patent Claims~~

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5 1. A method for connection control in a radio communications system (KN) during calls from/to radio subscribers, having

- at least one radio subsystem (RSS, RSS*) via which communications terminals (MS) which allow access by the radio subscribers can be connected in an associated radio area (RRA, RRA*),
- at least one switching center (MSC) for switching through connections, characterized
- in that the connections between the radio subsystem (RSS) and the switching center (MSC) are routed via a radio transmission unit (UE) in such a way,
- that, in the case of a call within a radio area between radio subscribers within the same radio area (RRA), or in the case of a call between radio subscribers in different radio areas (RRA, RRA*), only signaling connections (si) are switched through from the radio transmission unit (UE) to the switching center (MSC), and
- that traffic channel connections (ni) are switched by the radio transmission unit (UE) between a first radio subsystem (RSS) and a second radio subsystem (RSS*) in the case of a call within a radio area from the radio subsystem (RSS) itself or in the case of a call between radio subscribers in different radio areas (RRA, RRA*).

25 2. The method as claimed in claim 1, in which in the case of a call which relates to a radio subscriber and a subscriber of another communications system (PSTN), only the signaling connections (si) are switched through from the radio transmission unit (UE) to the switching center (MSC), and the traffic channel connections (ni) between the radio communications system (KN) and the other communications system (PSTN) are switched by the radio transmission unit (UE).

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3. The method as claimed in claim 1 or 2, in which control information (intra, inter) is sent back from the switching center (MSC) via a switched-through signaling connection (si), on the basis of which control information (intra, inter) the radio subsystem (RSS) and/or the radio transmission unit (UE) cause/causes the switching of the traffic channel connections (ni).

4. The method as claimed in claim 3, in which an identifier (cic) to identify trunks which are in each case used for the call in the switching center (MSC) are also sent back from the switching center (MSC) via a switched-through signaling connection (si), on the basis of which identifier (cic) the radio subsystem (RSS) checks for the presence of a call within a radio area, and causes the switching of the traffic channel connections (ni).

5. The method as claimed in one of the preceding claims, in which voice signals are transmitted on the traffic channel connections (ni).

6. The method as claimed in one of the preceding claims, in which a satellite (SAT) is used as the radio transmission unit (UE).

7. The method as claimed in one of the preceding claims, in which the switching of the signaling connections (si) and of the traffic channel connections (ni) for the uplink transmission direction from the communications terminal (MS) to the radio subsystem (RSS) takes place after carrying out a transcoder and data rate adaptation function, and that for the downlink transmission direction from the radio subsystem (RSS) to the communications terminal (MS) takes place before carrying out the transcoder and data rate adaptation function in the respective radio subsystem (RSS).

8. The method as claimed in one of the preceding claims, in which

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the switching of the ~~signaling~~ connections (si) and of the traffic channel connections (ni) in the respective radio subsystem (RSS,

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RSS*) is controlled by an interworking unit (IWU, IWU*) with a through-switching capability.

9. The method as claimed in one of the preceding claims, in which

the switching of the signaling connections (si) to the switching center (MSC) is controlled by an interworking unit (IWU) with a through-switching capability.

10. A radio communications system (KN) for connection control during calls from/to radio

10 subscribers, which has

- at least one radio subsystem (RSS, RSS*) via which communications terminals (MS) which allow access by the radio subscribers can be connected in an associated radio area (RRA, RRA*), and

15 - at least one switching center (MSC) for switching through connections characterized by

a radio transmission unit (UE) which is arranged between the radio subsystem (RSS) and the switching center (MSC) and via which the connections are routed in such a way,

20 - that, in the case of a call within a radio area between radio subscribers within the same radio area (RRA), or in the case of a call between radio subscribers in different radio areas (RRA, RRA*), only signaling connections (si) are switched through from the radio transmission unit (UE) to the switching center (MSC), and

25 - that traffic channel connections (ni) are switched by the radio transmission unit (UE) between a first radio subsystem (RSS) and a second radio subsystem (RSS*) in the case of a call within a radio area from the radio subsystem (RSS) itself or in the case of a call between radio subscribers in different radio areas (RRA, RRA*).

30 11. The radio communications system as claimed in claim 10, having

35 a radio transmission unit (UE) which is in the form of a satellite (SAT).

12. The radio communications system as claimed in claim 10 or 11, having

an interworking unit (IWU, IWU*) for controlling the switching of the signalling connections (si) and of the traffic channel connections (ni) in the respective radio subsystem (RSS, RSS*).

13. The radio communications system as claimed in claim 12, having

an interworking unit (IWU, IWU*) which is connected to a transcoder and data rate adaptation unit (TRAU, TRAU*).

14. The radio communications system as claimed in one of claims 10 to 13, having

an interworking unit (IWU) for controlling the switching of the connections in the switching center (MSC).